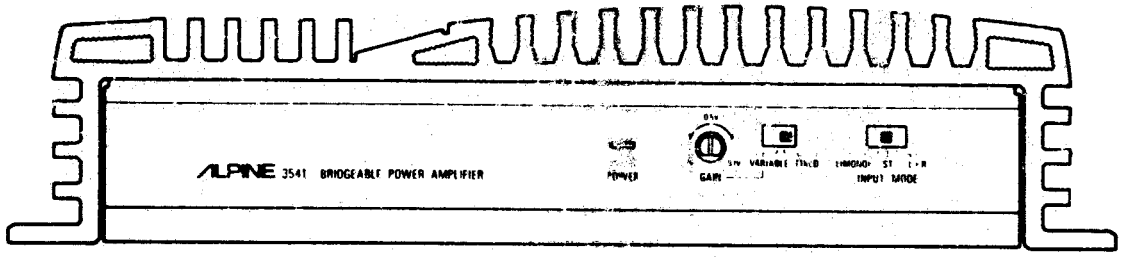
ALPINE SERVICE MANUAL

Bridgeable Power Amplifier



3541

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Specifications

<4 ohms 2-channel stereo mode>

Power Output (20Hz~20kHz, 0.08% T.H.D.) 32W/ch
Input Sensitivity (40W Power Output) ..... Fixed: 0.5V±2dB
Variable: 0.1V±2dB, 2.0V±2dB
Zero Signal Current Drain 1.8A
Frequency Response (–1dB at 1W Power Output) ..... 20Hz~40kHz
Current Drain (10% T.H.D.) 23A
Channel Separation (1kHz at 40W Power Output) 55dB
Signal to Noise Ratio (at 40W Power Output) ..... 100 dB
Speaker Impedance ..... Fixed: 10kohm±2kohm
Variable: 10kohm±2kohm

<2 ohms 2-channel stereo mode>

Power Output (20Hz~20kHz, 0.8% T.H.D.) 45W/ch
Current Drain (10% T.H.D.) 29A

<4 ohms BTL mono mode>

Power Output (20Hz~20kHz, 0.8% T.H.D.) 80W/ch
Current Drain (10% T.H.D.) 30A

<General>

Fuse Requirement ..... 25A (Battery)
Power Source ..... 14.4V DC (11~16V)
Semiconductors ..... 4 IC's, 31 Transistors, 17 Diodes, 6 Zener Diodes, 1 LED
Dimension ..... 220 (W)×51(H)×160 (D) mm
Weight 1.95kg

NOTE: Due to continuing product improvement, specifications and designs are subject to change without notice.

Features

- **2/1 Channel Operation:**

  The 3541 can be used as a 2-channel stereo amplifier, producing 60 watts per channel into 4 ohms, or 50 watts per channel into 2 ohms. It can also be bridged for single channel operation to produce a conservatively rated 100 watts into 4 ohms.

- **Duo-β Feedback Circuitry:**

  Duo-Beta is a patented and technologically advanced form of feedback (error correction circuitry). All amplifiers require some form of negative feedback to minimize distortion and stabilize the amplifier.
  Too much feedback, however, increases the transient intermodulation distortion (T.I.M.), decreases the amplifier slew factor, and reduces its musicality. The Duo-Beta circuitry supplies low negative feedback throughout the audio frequency and very high negative feedback at DC. This stabilizes the amplifier, removes DC offset, and offers excellent total harmonic distortion (T.H.D.) characteristics. It also provides low T.I.M., excellent slew factor, stability, and musicality.

- **No Current Limiting:**

  Current limiting circuitries used in conventional amplifiers may cause premature clipping and inferior transient response. Absence of current limiters in the audio section ensures low T.I.M., excellent transient response, and superb sonic quality.

- **S.T.A.R. Circuitry:**

  Alpine's proprietary Signal Transit for Accurate Response circuit topology improves sonic properties by reducing interaction between different sections of the circuitry.

- **Optional Speaker Level Input Capability:**

  Using the optional Alpine accessory, 4311, this power amplifier can be used with high or standard power head units that do not have a preamp output. (Please see the CONNECTIONS section for details.)

- **Input Mode Selector:**

  This switch allows the user to specify the input signal entering the amplifier.

  a. Stereo Mode:
  Allows the right and left channel signals to reach their designated amplifier channels. This mode provides a stereo output or a center channel common information output (when used in the bridged configuration).

  b. L (MONO) Mode:
  Disables the right channel input connector and routes the signal through the left channel input to all sections of the amplifier. This mode can be used when a single (mono) signal is amplified (either in stereo or bridged operation).

  c. L+R Mode:
  Sums the right and left channel input signals and routes the result to all sections of the amplifier. It can be used in stereo or bridged operation to provide a summed (mono) output.

- **DC-to-DC Switching Mode Power Supply:**

  Provides excellent power output throughout the audio bandwidth (20 Hz to 20 KHz). Its soft clipping characteristics ensure superb transient response and musicality.

- **Extra Heavy Duty Construction:**

  Glass-epoxy printed circuit boards for durability and separate high current power transfer bus-bars for primary voltage connections inside the amplifier.

- **Fully Complementary, Discrete Output Circuitry:**

  For excellent reliability, superb sonic performance and high current capability for accurate transient response.

- **Continuously Adjustable Input Gain Control:**

  For matching the 3541 with components with a preamp output level other than 500 mV (the standard preamp output level of Alpine equipment). Also used to obtain certain imaging characteristics or to compensate for different speaker efficiencies.

- **Gold-Plated RCA Input Connectors:**

  Provides the most accurate signal transmission and lowest possible loss. Gold-plated terminals are immune to signal deterioration with time that can be caused by corrosion in the connectors.

- **Gold-Plated Speaker Output and Power Connectors:**

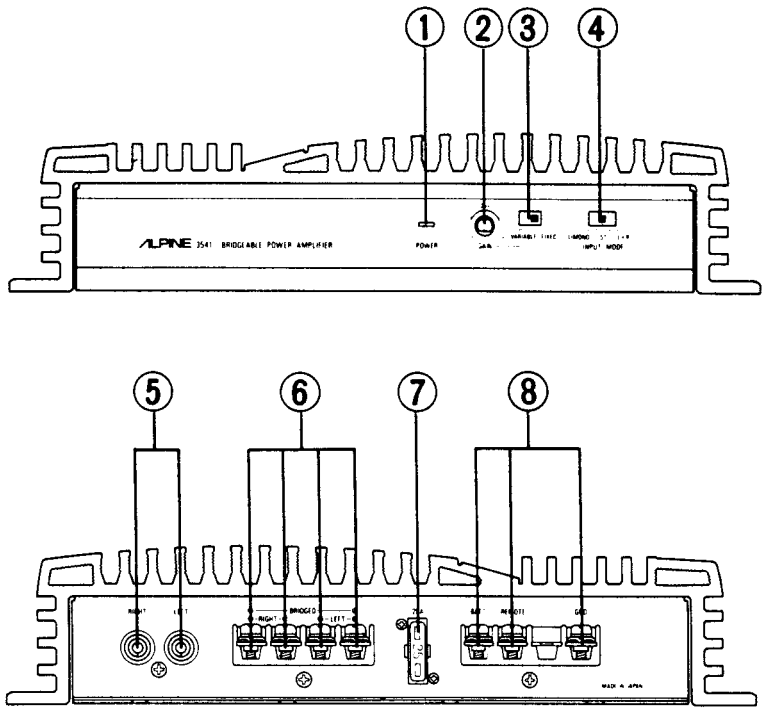
  For high definition, minimum loss power transfer and oxidization resistance.

- **High Performance, Low Noise, Audiophile Quality, Active and Passive Components.**

- **Capacitive/Inductive Power Supply Input and Output Filtering:**

  For low radio frequency interference (RFI) and immunity to system noises (such as alternator whine).

Switches And Terminals

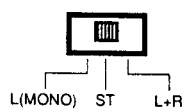


① Power Indicator
② Input Gain Adjustment Control
③ Input Gain Selector Switch
④ Input Mode Selector Switch
⑤ RCA Input Connectors
⑥ Speaker Output Terminals
⑦ Fuse
⑧ Power Supply Terminals

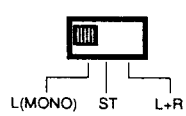
Switch Settings

- **Input Mode Selector Switch ④:**

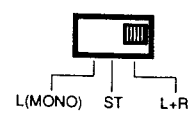
a) Set to the "ST" position (center) when the amplifier is used as a 2-channel stereo system.



b) Set to the "L (MONO)" position when the amplifier is used for one channel of a stereo or bridged system.

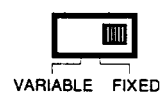


c) Set to the "L+R" position when the amplifier is used for a subwoofer system which uses the right and left channel signals summed.

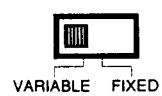


- **Input Gain Selector Switch ③:**

a) Set to the "FIXED" position when connecting the 3541 to other Alpine products. This position sets the input sensitivity to 500 mV which corresponds to the preamp output of Alpine products.



b) Set to the "VARIABLE" position when connecting the 3541 to a non-Alpine product with an output voltage other than 500 mV. This position should also be used when adjustment of input sensitivity is required to obtain certain imaging requirements or to compensate for different speaker efficiencies.



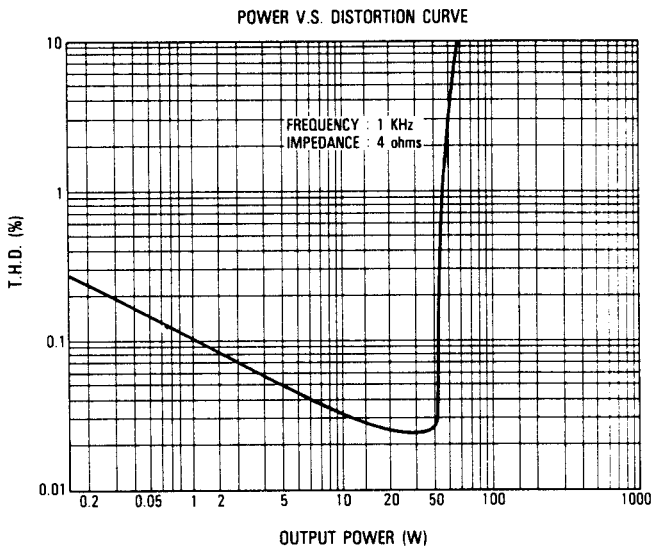
- **Input Gain Adjustment Control ②:**

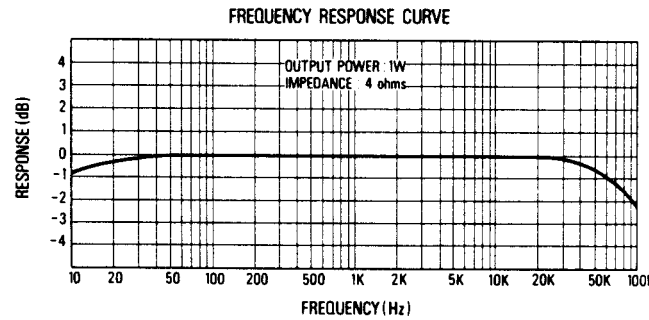
  After setting the Input Gain Selector Switch ③ to the "VARIABLE" position, set your head unit's volume control 1/4 of a turn down from the maximum output level, rotate the Input Gain Adjustment Control ② with a #0 screwdriver and adjust the input gain to the point where there is maximum volume with no distortion.

- **Power Indicator ①:**

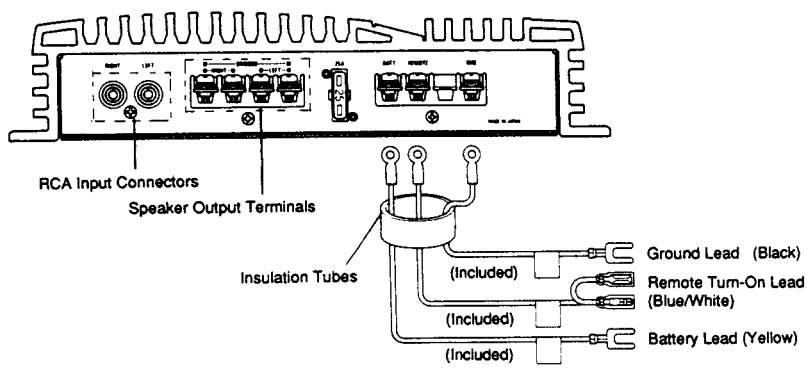
  This indicator lights green when the power is on.

Characteristic Curves





Connections



Always disconnect the negative (–) terminal of the vehicle's battery before beginning installation of electronic components. Insulation tubes for the speaker leads and the power supply leads are supplied with the 3541. Route the speaker leads and the power supply leads separately through these tubes.

1. **Speaker Output Terminals**
   Be sure to observe correct speaker connections and phasing. This includes maintaining the correct polarity; positive (+) and negative (–).

   Caution: Do not allow any non-insulated speaker leads to touch ground or each other.

2. **Ground Lead (Black)**
   Securely connect this lead to a clean, bare metal spot on the vehicle's chassis. Verify this point to be a true ground by checking for continuity between that point and the negative terminal of the vehicle's battery.

3. **Battery Lead (Yellow)**
   Connect this lead to the positive terminal of the vehicle's battery. Do not connect this lead to existing circuits in the vehicle's electrical system. If you need to extend this lead, use an Alpine 4331 extension cable. (6 AWG cable can also be used to extend this lead.) To protect your vehicle and amplifier, it is very important that this lead is fused with a 60 A fuse, as close to the battery as possible. This should be your last connection after all other connections have been made.

4. **Remote Turn-On Lead (Blue/White)**
   Connect this lead to the remote turn-on lead of your head unit.

5. **RCA Input Connectors**
   The line-out leads of your head unit are connected here using RCA extension patch cords (Alpine 4410, 4422, or 4452). Be sure to observe proper channel designation: Left to Left, Right to Right.

INTERFACING A HEAD UNIT WITH NO PRE-AMP OUTPUTS:

The 3541 can be used with any high power or standard power head unit by using the speaker outputs of these head units. This includes Alpine, other aftermarket, and OEM factory-installed source units.

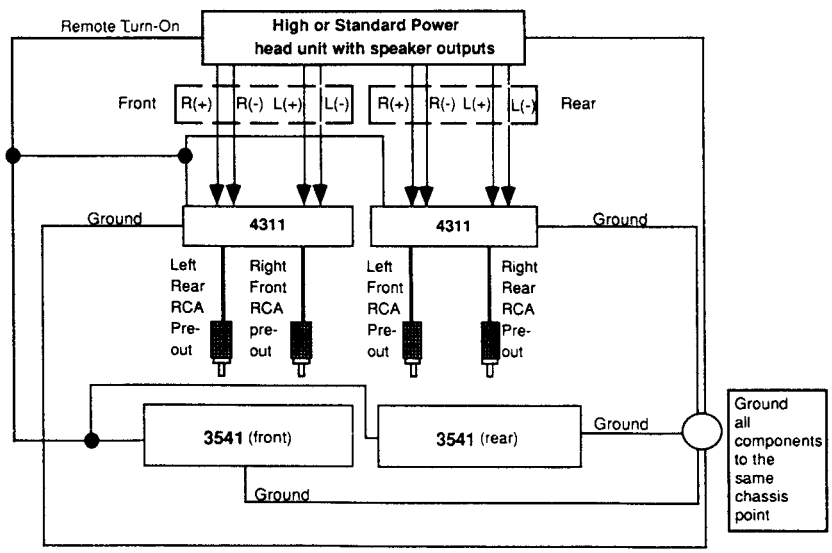
An Alpine 4311 speaker to pre-amp interface is needed to accomplish this. The 4311 features low impedance, balanced inputs for better isolation, better system noise immunity, and proper operation of the head unit controls such as balance and fader.

Connect the 4311 as shown below between the head unit and the 3541. Be sure to read Notes 1 through 3.

Note 1: Some head unit's speaker outputs may have an inherent turn on or turn off pop noise. Although the 4311 will prevent additional system noise usually associated with large system upgrades of this type, it cannot improve upon the design of the signal source. If there is a pop noise present in the head unit, it will be amplified through the system and may be objectionable. In such a case, the solution is to upgrade to an Alpine head unit.

Note 2: The 4311 can be mounted near the amplifier or near the head unit. However, running long RCA cables may increase chances of encountering a system noise problem. Therefore, mounting the 4311 close to the amplifier is preferable.

Note 3: To avoid introducing system noises such as alternator whine, ground all amplifiers, signal processors, 4311's and the head unit to the same point on the chassis.



Precautions

1. Improper wiring connections could cause damage to your vehicle's electrical system and/or the 3541 amplifier. Carefully follow the wiring instructions in this manual.

2. Connecting the battery lead (yellow) to the positive (+) terminal of the battery should be your last connection after all other connections have been made.

3. Due to the high power output of the 3541, it is important that all connections are clean and well secured, to prevent damage to the amplifier and/or vehicle.

4. Be sure that the 3541 is mounted in a way that will allow for free air circulation and heat dissipation.

5. When changing fuses, be sure to replace the old fuse with one of the same amperage. Use of improper fuses can lead to serious damage to components.

Disassembly Instructions

1. Removal of Bottom Cover

(1) Remove four screws marked " ○ " as shown in Figure 1.

(2) The Bottom Cover will be removed by pulling out in the arrow direction as shown in Figure 1.

2. Removal of Amp/Power P.C.Board

(1) After removal of the Bottom Cover remove 24 screws marked " ● ". Then, the Amp/Power P.C.Board will be removed from Heat Sink together with Rear Cover and RCA, Output Connector P.C.Board as shown in Figure 2.

(2) Remove solders located two places as shown in Figure 3.

(3) After removal of Fuse, remove five screws marked " ▲ " and the Hooks located at two places as shown in Figure 4.

(4) After the above procedures are completed, RCA, Output Connector P.C.Board is ready to be removed from Rear Cover together with the Amp/Power P.C.Board.

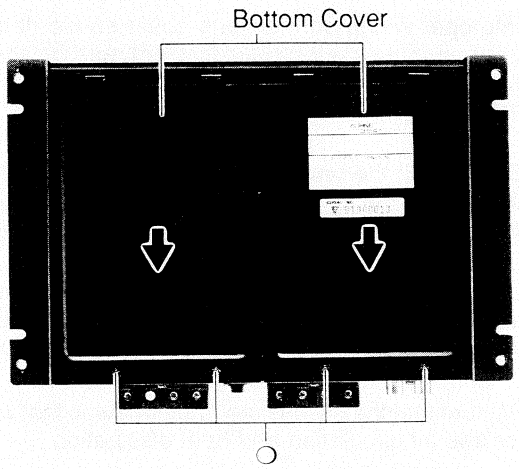


Figure 1

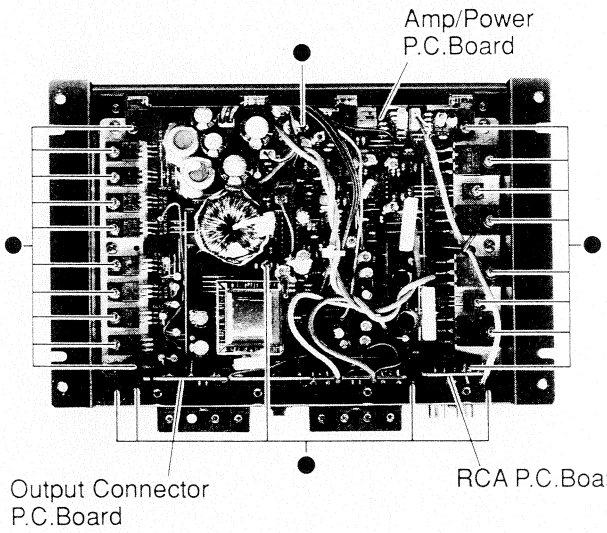


Figure 2

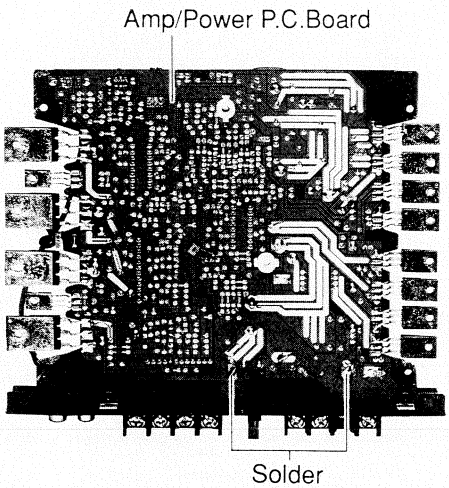


Figure 3

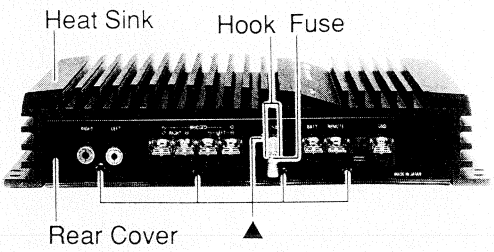
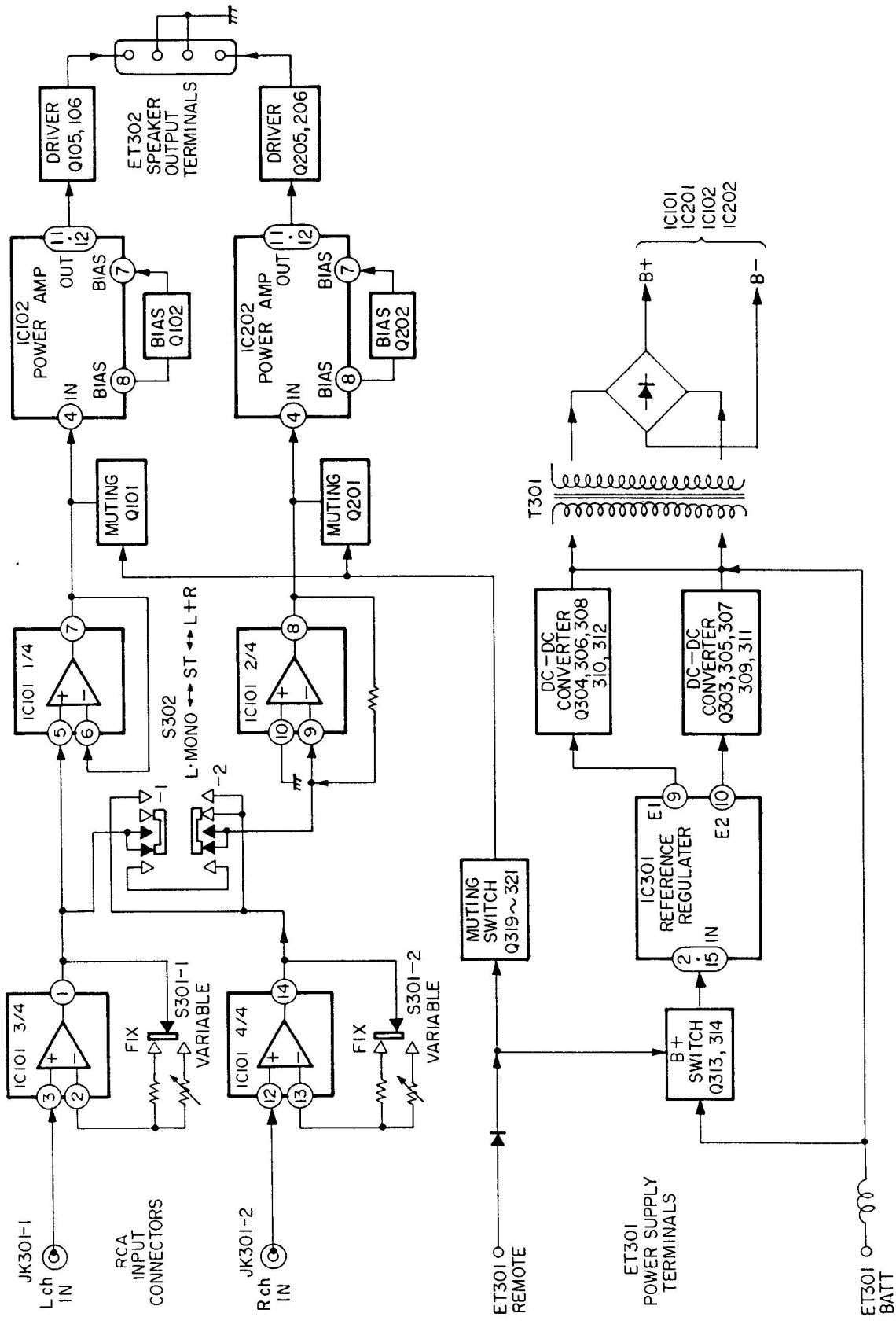
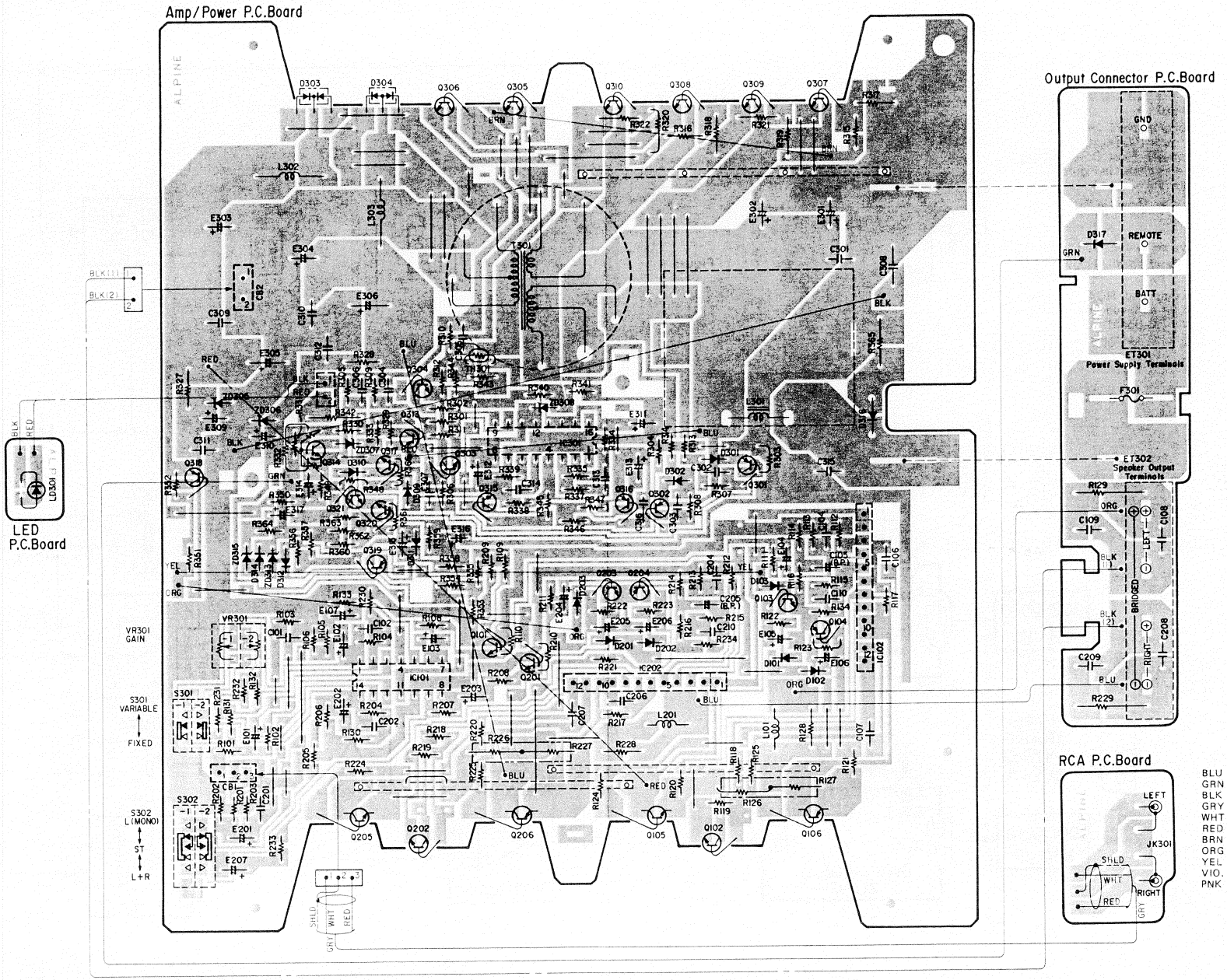


Figure 4

Block Diagram



Parts Layout on P.C.Boards and Wiring Diagram



Schematic Diagram

IC	IC301								IC102 IC202		IC101 (1/4) IC101 (2/4)		IC101 (3/4) IC101 (4/4)	
Transistor (Q)	Q309 Q310	Q307 Q308	Q305 Q306	Q301 Q303 Q302 Q304 Q313 Q314		Q105 Q106 Q205 Q206	Q103 Q104 Q203 Q204	Q102 Q202		Q101 Q201 Q319		Q321		Q320
		Q315	Q316	Q317	Q318									

Amp / Power P.C. Board

Q301,302 2SA733 Q303,304 2SC945L
DRIVER CIRCUIT

Q307~310 2SD1669
DC-DC CONVERTER SWITCHING

Q305,306 2SC3852
DC-DC CONVERTER SWITCHING

Q105 2SC4386 DRIVER

Q106 2SA1671 DRIVER

IC102 μPC1270H POWER AMP

IC102
CONSTANT CURRENT LOAD
REFERENCE BIAS
TEMPERATURE COMPENSATION
DIFFERENTIAL AMPLIFIER
PROTECTION
PRE DRIVE
CURRENT MIRROR LOAD
DRIVE STAGE

Output Connector P.C. Board (1/2)
LEFT
RIGHT
ET302 OUTPUT TERMINAL

Q103 2SC1841 CURRENT LIMITER

Q104 2SA988 CURRENT LIMITER

Q102 2SC3423 BIAS

IC202 μPC1270H POWER AMP

Q205 2SC4386 DRIVER

Q203 Q204 2SC1841 2SA988 CURRENT LIMITER

Q206 2SA1671 DRIVER

Q202 2SC3423 BIAS

IC101 μPC4574C PHASE INVERTER

IC101 μPC4574C GAIN CONTROL AMP

Q101 2SC3327 MUTING

Q201 2SC3327 MUTING

S302 INPUT MODE L (MONO) ST L+R

S301-1 GAIN FIX VARIABLE VR301-1 50K

S301-2 GAIN FIX VARIABLE VR301-2 50K

JK301-1 LEFT

JK301-2 RIGHT

RCA P.C. Board

IC301
REFERENCE REGULATOR
ERROR AMP2
ERROR AMP1
OSC
0.1V

Q313 2SA1358 B+ SWITCHING

Q314 RT1N141S B+ SWITCHING

IC301 μPC494C REFERENCE REGULATOR

Output Connector P.C. Board (2/2)
REMOTE
BATTERY
GND
F301 25A
ET301 POWER SUPPLY TERMINALS

Q315 2SC945L SWITCHING
Q316 2SA733
Q317 2SC945L SWITCHING
Q318 2SB1076M

LED P.C. Board

Q319 2SA1115 MUTING SWITCH
Q321 2SC2603 MUTING SWITCH
Q320 2SC3615 MUTING SWITCH

IC's and Transistors Voltage Values

IC101

Pin No.	Voltage
1	0.35V
2	45mV
3	45mV
4	15.3V
5	4mV
6	5mV
7	5mV
8	–5mV
9	0V
10	0V
11	–15.3V
12	45mV
13	45mV
14	0.35V

IC102, 202

Pin No.	Voltage
1	28.8V
2	28.8V
3	22.8V
4	0.17V
5	0.17V
6	–27V
7	–1.2V
8	–0.35V
9	–28.8V
10	–28.8V
11	–0.7V
12	0.35V

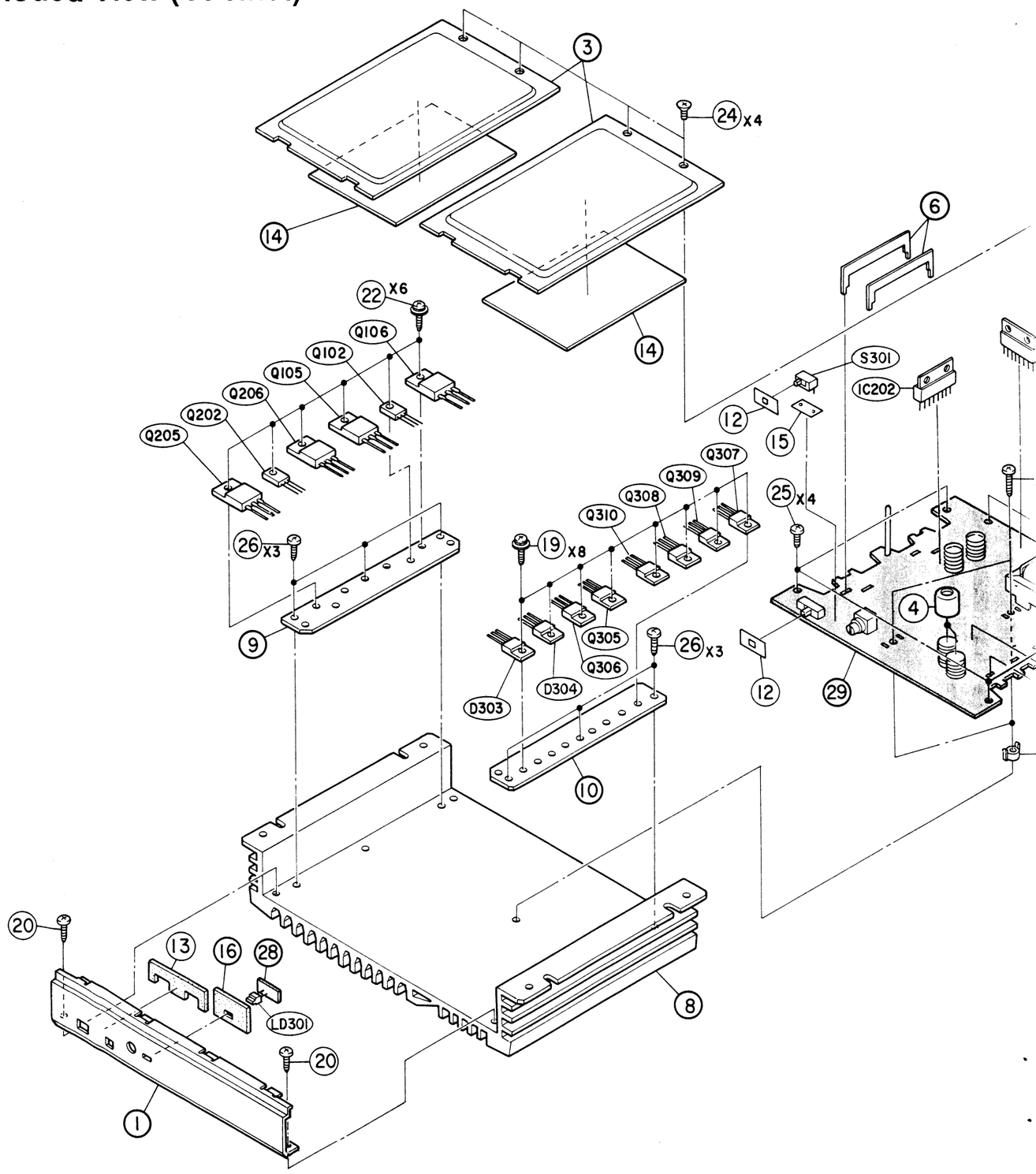
IC301

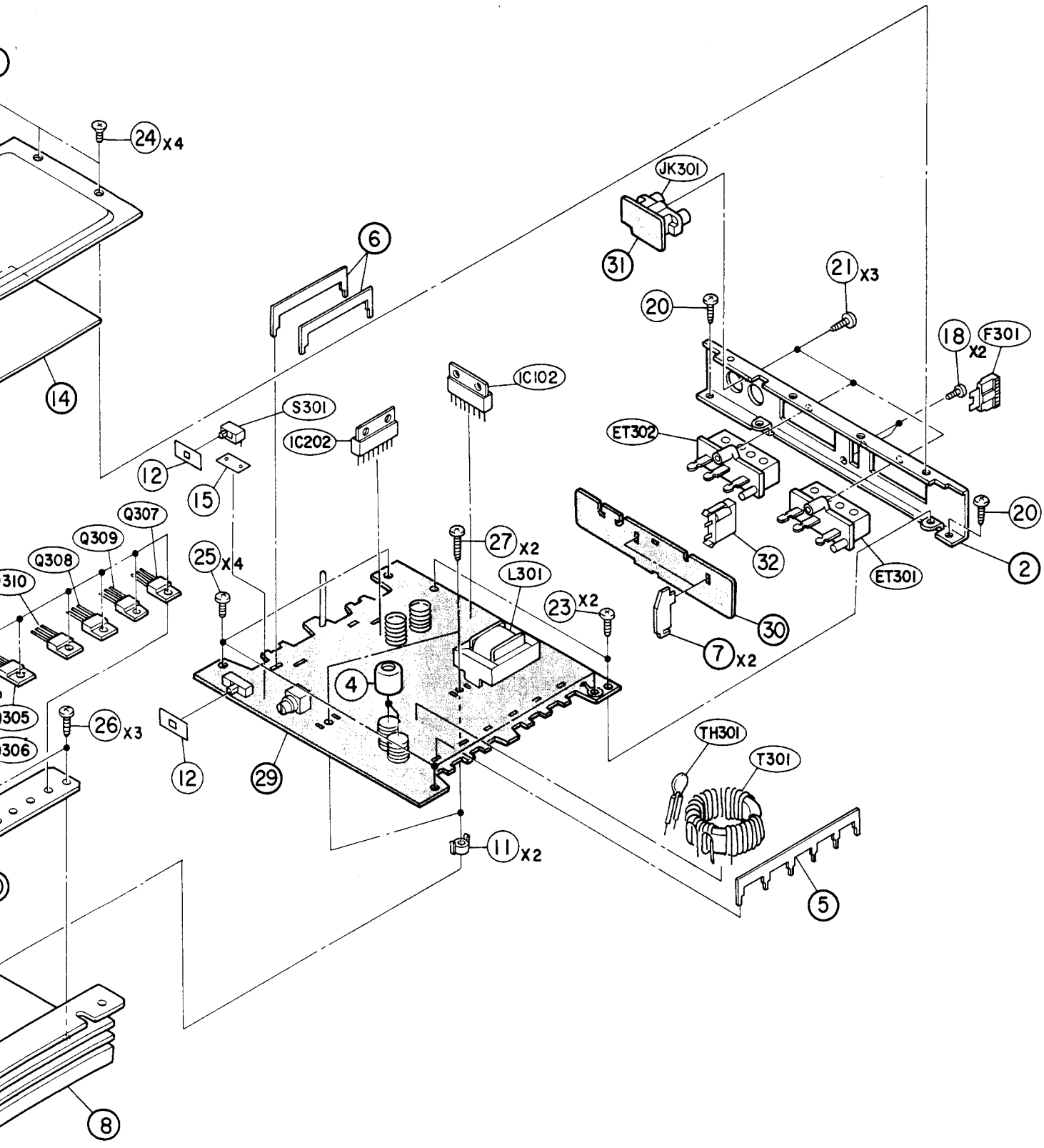
Pin No.	Voltage
1	0V
2	4.8V
3	100mV
4	8mV
5	1.7V
6	3.7V
7	0V
8	14.4V
9	6V
10	6V
11	14.4V
12	14.4V
13	5V
14	5V
15	5V
16	0V

Pin Name / Transistor	E	C	B
Q101	0V	0V	–2.6V
Q102	–1.2V	0.35V	–0.6V
Q103	–135mV	28.5V	–140mV
Q104	–135mV	–0.9V	–140mV
Q105	–140mV	28.8V	0.36V
Q106	–140mV	–28.8V	–0.68V
Q201	0V	0V	–2.6V
Q202	–1.2V	0.35V	–0.6V
Q203	–135mV	28.5V	–140mV
Q204	–135mV	–0.9V	–140mV
Q205	–140mV	28.8V	0.36V
Q206	–140mV	–28.8V	–0.68V
Q301	14.4V	7.2V	15.1V
Q302	14.4V	7.2V	15.1V
Q303	0V	0.85V	–0.75V
Q304	0V	0.85V	–0.75V
Q305	0.5V	14.4V	0.63V
Q306	0.5V	14.4V	0.63V
Q307	0V	14.4V	0.3V
Q308	0V	14.4V	0.3V
Q309	0V	14.4V	0.3V
Q310	0V	14.4V	0.3V
Q313	14.4V	14.4V	13.7V
Q314	0V	90mV	2.7V
Q315	0V	5V	30mV
Q316	5V	8mV	5V
Q317	0V	10.3V	1mV
Q318	28.8V	–20mV	28.8V
Q319	10V	–2.6V	10.5V
Q320	0V	9mV	0.6V
Q321	0V	10.5V	10mV

NOTE:
1. All resistance values are in ohms. K= 1,000 M= 1,000,000
2. All capacitance values are in microfarads. P= 1/1,000,000
● Measuring Condition
1. Power Supply Voltage : DC14.4V.
2. Measuring Meter : Digital Multi Voltmeter.
3. Measuring Point Reference : Between Ground.
4. Measuring Condition : No Signal Input.

Exploded View (Cabinet)




24 X4
JK301
31
6
21 X3
20
18 X2
F301
14
IC102
S301
IC202
ET302
12
15
Q307
Q309
Q308
25 X4
27 X2
L301
23 X2
32
ET301
20
2
30
7 X2
4
26 X3
12
29
TH301
T301
11 X2
5
8

Cabinet Assembly Parts List

Symbol No.	Index	Part No.	Description		
4	3-E	15E08006S01	Case, Shield		
11	4-E	43E08008S01	Support, P.C.Board		
12		43E06486S01	Cover, Switch		
13	5-B	75E08007S01	Cushion, Switch		
15	3-D	43E06498S01	Spacer, Switch		
18	2-G	03E07902S01	Screw, Tapping (2×6)		
19	3-C	03E07951S01	Screw, Tapping (2.6×8.5)		
20		03E06480S01	Screw, Tapping (3×6)		
21	2-G	03E06490S01	Screw, Tapping (3×8)		
22	2-C	03E06489S01	Screw, Tapping (3×9.5)		
23	3-F	03E06492S01	Screw, Tapping (3×5)		
24	1-D	03E06493S01	Screw, Tapping (3×6)		
25	3-D	03E07906S01	Screw, Tapping (3×6)		
26		03E06967S01	Screw, Tapping (3×10)		
27	3-E	03E07234S01	Screw, Tapping (3×12)		
32	3-F	09E06453S01	Holder, Auto Fuse		

NOTE: The parts without part numbers are not supplied.

Electrical Parts List

Resistors: Carbon resistors under 1/4 watts are not mentioned in the parts list, please confirm them by schematic diagram.
μF = microfarads, pF = picofarads.

Symbol No.	Part No.	Description

Abbreviations

RES. = Resistor	CAP. = Capacitor
C.F. = Carbon Film	ELY. = Electrolytic
M.F. = Metal Film	CER. = Ceramic
M.O. = Metal Oxide Film	MYL. = Mylar
M.P. = Metal Plate	TAN. = Tantalum
TR. = Transistor	POLY. = Polystyrol
TRANS. = Transformer	PP. = Polypropylene
CP. = Chip	PLT. = Polyethylene

Amp/Power P.C.Board

IC's

IC101	51E04934S01	μPC4574C
IC301	51T70759F01	μPC494C

Transistors

Q101	48E06355S01	2SC3327
Q103	48E07659S01	2SC1841
Q104	48E07660S01	2SA988
Q201	48E06355S01	2SC3327
Q203	48E07659S01	2SC1841
Q204	48E07660S01	2SA988
Q301	48E06356S01	2SA733
Q302	48E06356S01	2SA733
Q303	48E06455S01	2SC945L
Q304	48E06455S01	2SC945L
Q313	48T70761F01	2SA1358
Q314	48E06350S01	RT1N141S
Q315	48E06455S01	2SC945L
Q316	48E06356S01	2SA733
Q317	48E06455S01	2SC945L
Q318	48T81069F01	2SB1076M
Q319	48E06348S01	2SA1115
Q320	48E06358S01	2SC3615
Q321	48E06347S01	2SC2603

Diodes

D101	48T68829F01	1SS133
D102	48T68829F01	1SS133
D103	48T58583F01	1SS176
D201	48T68829F01	1SS133
D202	48T68829F01	1SS133
D203	48T58583F01	1SS176
D301	48T58583F01	1SS176
D302	48T58583F01	1SS176
D309	48T58583F01	1SS176
D310	48T58583F01	1SS176
D311	48T58583F01	1SS176
D312	48T58583F01	1SS176
D314	48E06972S01	1SS178
D316	48T68079F01	30D4
ZD305	48E06353S01	Zener, RD16ESB1
ZD306	48E06353S01	Zener, RD16ESB1
ZD307	48E06352S01	Zener, RD6.2ESB1
ZD308	48E06354S02	Zener, RD22ESB1
ZD313	48E06351S01	Zener, RD3.9ESB1
ZD315	48E06351S01	Zener, RD3.9ESB1

Capacitors

C101	21E06324S01	CER.,	220pF
E101	23E04816S01	ELY.,	10μF/16V
C102	21E06322S01	CER.,	47pF
E102	23E04816S01	ELY.,	10μF/16V
E103	23E04816S01	ELY.,	10μF/16V
C104	21E06641S01	CER.,	330pF
E104	23E04816S01	ELY.,	10μF/16V
C105	23E06330S01	ELY.,	(B.P.) 100μF/10V
E105	23E04826S01	ELY.,	0.47μF/50V
C106	21E04823S01	CER.,	22pF
E106	23E04826S01	ELY.,	0.47μF/50V
C107	08E07874S01	Film,	0.047μF
E107	23E04816S01	ELY.,	10μF/16V
C110	21E03923S01	CER.,	4.7pF
C201	21E06324S01	CER.,	220pF
E201	23E04816S01	ELY.,	10μF/16V
C202	21E06322S01	CER.,	47pF
E202	23E04816S01	ELY.,	10μF/16V
E203	23E04816S01	ELY.,	10μF/16V
C204	21E06641S01	CER.,	330pF
E204	23E04816S01	ELY.,	10μF/16V
C205	23E06330S01	ELY.,	(B.P.) 100μF/10V
E205	23E04826S01	ELY.,	0.47μF/50V
C206	21E04823S01	CER.,	22pF
E206	23E04826S01	ELY.,	0.47μF/50V
C207	08E07874S01	Film,	0.047μF
E207	23E04816S01	ELY.,	10μF/16V
C210	21E03923S01	CER.,	4.7pF
C301	08E07877S01	Film,	0.12μF
E301	23E07649S01	ELY.,	1000μF/16V
C302	21E06325S01	CER.,	560pF
E302	23E07649S01	ELY.,	1000μF/16V
C303	21E06325S01	CER.,	560pF
E303	23E07882S01	ELY.,	1000μF/35V
C304	21E06323S01	CER.,	100pF
E304	23E07882S01	ELY.,	1000μF/35V
C305	21E06323S01	CER.,	100pF
E305	23E07645S01	ELY.,	2200μF/35V
C306	21E06323S01	CER.,	100pF
E306	23E07645S01	ELY.,	2200μF/35V

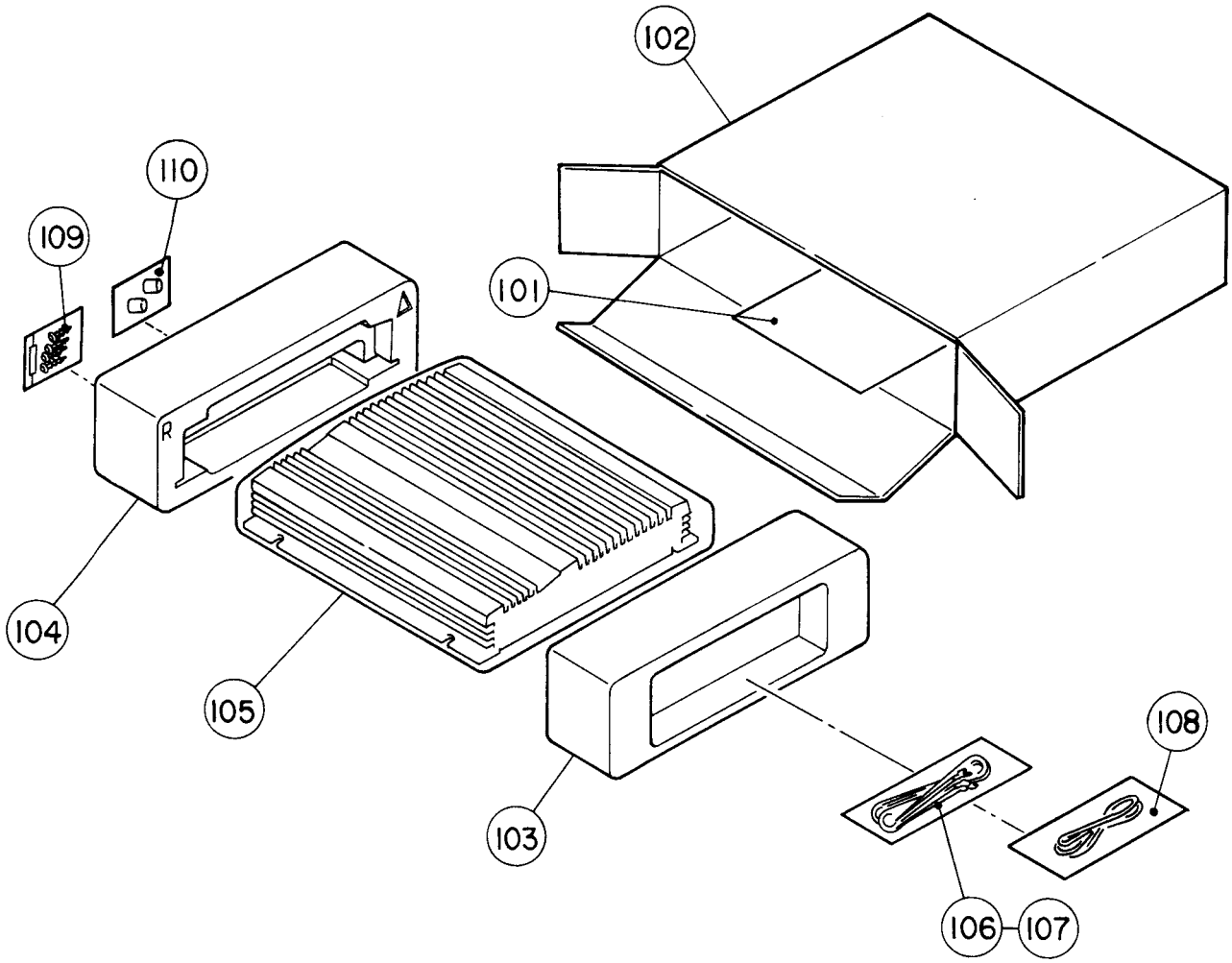
Symbol No.	Part No.	Description		
C307	21E06323S01	CER., 100pF		
C308	08E07885S01	Film, 0.47μF		
C309	08E07877S01	Film, 0.12μF		
E309	23E07870S01	ELY., 220μF/25V		
C310	08E07877S01	Film, 0.12μF		
E310	23E07870S01	ELY., 220μF/25V		
C311	08E07874S01	Film, 0.047μF		
E311	23E04836S01	ELY., 220μF/10V		
C312	08E07874S01	Film, 0.047μF		
E312	23E04833S01	ELY., 100μF/16V		
C313	08E07877S01	Film, 0.12μF		
E313	23E06326S01	ELY., 220μF/16V		
C314	08E07876S01	MYL., 0.001μF		
E314	23E04833S01	ELY., 100μF/16V		
C315	08E07878S01	Film, 0.15μF		
E315	23E04867S01	ELY., 2.2μF/50V		
C316	08E07873S01	MYL., 0.01μF		
E316	23E07880S01	ELY., 470μF/16V		
E317	23E04866S01	ELY., 33μF/16V		
Transformer / Coils				
L101	24E07888S01	IND., 1.1μH		
L201	24E07888S01	IND., 1.1μH		
L302	24E07941S01	Choke, Coil		
L303	24E07941S01	Choke, Coil		
Switch				
S302	40E06345S01	Slide, SSSJ12 (MODE)		
Resistors				
R126	06E07879S01	MPC., 0.1 ohm×2 5W		
R127				
R128	06E06383S01	M.F., 10 ohm 1W		
R226	06E07879S01	MPC., 0.1 ohm×2 5W		
R227				
R228	06E06383S01	M.F., 10 ohm 1W		
R315	06E06382S01	M.F., 1 ohm 1W		
R316	06E06382S01	M.F., 1 ohm 1W		
R317	06E06383S01	M.F., 10 ohm 1W		
R318	06E06383S01	M.F., 10 ohm 1W		
R319	06E06382S01	M.F., 1 ohm 1W		
R320	06E06382S01	M.F., 1 ohm 1W		
R321	06E06383S01	M.F., 10 ohm 1W		
R322	06E06383S01	M.F., 10 ohm 1W		
R327	06E07940S01	M.F., 1K ohm 1W		
R328	06E07940S01	M.F., 1K ohm 1W		
R342	06E07886S01	M.F., 1K ohm 1/2W		
R365	06E07889S01	Cement, 0.1 ohm 5W		

Symbol No.	Part No.	Description		
Volumes				
VR101	18E06386S01	50K ohm×2		
VR201	18E06386S01	50K ohm×2		
Output Connector P.C.Board				
Diode				
D317	48T84052F01	11ES2		
Capacitors				
C108	08E07890S01	Film, 0.022μF		
C109	08E07891S01	Film, 0.1μF		
C208	08E07890S01	Film, 0.022μF		
C209	08E07891S01	Film, 0.1μF		
Resistors				
R129	06E03813S01	M.F., 10 ohm 1W		
R229	06E03813S01	M.F., 10 ohm 1W		
Miscellaneous				
D303	48T80987F01	Diode, FMG22S		
D304	48T80987F02	Diode, FMG22R		
ET301	29E07893S01	Power Supply Terminals		
ET302	29E07894S01	Speaker Output Terminals		
F301	65E07942S01	Fuse, Auto 25A		
IC102	51E03492S01	IC., μPC1270H		
IC202	51E03492S01	IC., μPC1270H		
JK301	09E06846S01	RCA Input Connectors		
L301	25E06343S01	TRANS., Choke		
LD301	48T52238F01	LED., BG5552K (GRN)		
Q102	48T64376F01	TR., 2SC3423		
★Q105	48E06361S02	TR., 2SC4386		
★Q106	48E06360S02	TR., 2SA1671		
Q202	48T64376F01	TR., 2SC3423		
★Q205	48E06361S02	TR., 2SC4386		
★Q206	48E06360S02	TR., 2SA1671		
Q305	48T82883F01	TR., 2SC3852		
Q306	48T82883F01	TR., 2SC3852		
Q307	48E06359S01	TR., 2SD1669		
Q308	48E06359S01	TR., 2SD1669		
Q309	48E06359S01	TR., 2SD1669		
Q310	48E06359S01	TR., 2SD1669		

★ NOTE: When replacing transistors Q105, 106 and Q205, 206, always use one with the same rank.

Symbol No.	Part No.	Description		
S301	40E06346S01	Switch, Slide SSSJ12 (FIX/VAR)		
T301	25E07658S01	TRANS., Power		
TH301	48E06365S01	Thermister, TD5-C320DA2 20K ohm		

Packing Method View



Packing Assembly Parts List

Symbol No.	Part No.	Description		
● 101	68P94789F84	Manual, Owners		
■ 101	68P94789F90	Manual, Owners		
● 102	56E07892S01	Carton, Packing		
■ 102	56E07898S01	Carton, Packing		
103	56E07938S01	Tray, Packing (L)		
104	56E07939S01	Tray, Packing (R)		
105	56B72811F01	Sack, Polyethylene		
106	01E07949S01	Assy., BATTERY LEAD		
107	01E07950S01	Assy., GROUND LEAD		
108	01E08346S01	Assy., Remote Cord		

Symbol No.	Part No.	Description		
109	03E07057S01	Screw, Tapping (4×14)		
110	15A81064F01	Rubber, Housing		

NOTE: ● :For North American Model Only (AO)
■ :For General Export Model Only (GO)
Others Common.